

Rock Island Arsenal
Gun Stock Dry Kiln
(Building 140)
Second Street between Ramsay Street
and South Avenue
Rock Island
Rock Island County
Illinois

HAER No. IL-20-X

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3/140-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
National Park Service
Department of the Interior
Washington, D.C. 20013-7127

HISTORIC AMERICAN ENGINEERING RECORD

ROCK ISLAND ARSENAL
GUN STOCK DRY KILN
(Building 140)
HAER No. IL-20X

HAER
ILL.
81-20011
3/140-

Location: Second Street Between Ramsey Street and
South Avenue,
Rock Island Arsenal,
Rock Island,
Rock Island County, Illinois
UTM: 15.704850.4598650
Quad: Davenport East

Date of Construction: 1917-1918

Present Owner and Occupant: U.S. Army

Present Use: Miscellaneous atorage

Significance: The Gun Stock Dry Kiln was one of a pair of
almost identical buildings erected in
1917-1918 for seasoning lumber used in the
arsenal's manufacturing program (see HAER
No. IL-20W). The building was designed in a
crenelated Gothic Revival style, reflecting
the architectural detailing of a large
Artillery Ammunition Assembling Plant (see
HAER No. IL-20U) constructed a block west
during the same period. Part of the Rock
Island Arsenal National Register Historic
District, the Gun Stock Dry Kiln embodied an
equal concern for utilitarian and aesthetic
considerations that became increasingly rare
during subsequent wartime construction
programs.

Historian: Jeffrey A. Hess, February 1985

Architectural Historian: David Arbogast, February 1985

PART I. HISTORICAL INFORMATION

A. Physical History:

1. Date of erection: The date "1918" is cast into concrete at the bottom of the north buttress of the west central bay. According to the arsenal's official Completion Report for World-War-I construction, the building was "begun 12-12-17, completed 7-1-[18]" (p. 2).
2. Architect: Westinghouse-Church-Kerr Company of New York (Completion Report, p. 2; original drawings in the Rock Island Arsenal Facilities Engineer's Office).
3. Original and subsequent owners: U.S. Army.
4. Builder, contractor, supplier: Westinghouse-Church-Kerr Company of New York served as general contractor on a cost plus 10 per cent basis (Completion Report, p. 2).
5. Original plans and construction: On April 18, 1917, Westinghouse-Church-Kerr submitted to the arsenal command a crenelated, Gothic Revival design (see HAER Photo No. IL-20U-12) for an Artillery Ammunition Assembling Plant, which was to be the largest structure in a proposed shell production complex about two blocks southwest of the nineteenth-century stone shops on Rodman Avenue. The design was approved by the War Department on April 20, 1917, and it strongly influenced the architectural detailing of several neighboring structures, including the Gun Stock Dry Kiln (Crozier to Burr, April 20, 1917).

The Gun Stock Dry Kiln was designed in conjunction with an Artillery Wheel Stock Dry Kiln situated immediately to the north (see HAER No. IL-20W). Apparently, a single set of plans was produced for both buildings, although the Gun Stock Dry Kiln was originally planned as half the length of the Artillery Wheel Stock Dry Kiln. The Rock Island Arsenal Engineering Plans and Services Division has the following drawings for original construction prepared by Westinghouse-Church-Kerr:

"Dry Kilns for Artillery Wheel Stock (Tiemann Type) / General Plan," December 13, 1917, No. 2196-E-7, RIA B139-A2.

"Dry Kiln for Artillery Wheel Stock (Tiemann Type) / Foundation Plan," November 1, 1917, No. 2196-E-1, RIA B139-A1.

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"Dry Kilns for Artillery Wheel Stock (Tiemann Type) / Elevations," December 14, 1917, No. 2196-E-6, RIA B140-B3, RIA B139-B1, D40009C.

"Dry Kilns for Artillery Wheel Stock / Reinforced-Concrete Details / Roof Slabs and Girders," December 7, 1917, No. 2196-E-4, RIA B139-B6.

"Dry Kilns for Artillery Wheel Stock & Gun Stock / Door Details," No. 2196-E-13, RIA B 139-B5.

"Dry Kilns for Artillery Wheel Stock & Gun Stock / Miscellaneous Details," December 22, 1917.

These drawings show a stuccoed, masonry, one-story building with monitor; the roofline on the east and west facades incorporates crenelated detailing. The original construction of the west elevation is documented by a 1944 photograph in the picture collection of the Rock Island Arsenal Historical Office (see HAER Photo No. IL-20X-5). The building's present configuration conforms to the original construction, except that an east addition has doubled its original length. The present detailing of the east facade conforms to the original plan for that elevation.

6. Alterations and additions: On June 24, 1918, construction commenced on an addition to the east facade, which doubled the original length of the building. Construction concluded on December 3, 1918. Stone and Webster Company of Boston served as general contractor ("Progress Map" in Completion Report, n.p.; War's Greatest Workshop, pp. 27-28). The architectural detailing of the east facade of the addition was identical to that planned for the original east facade.

At an undetermined date, much of the original wood flooring was replaced with concrete flooring. This alteration may have been completed about 1963, when the neighboring Artillery Wheel Stock Dry Kiln experienced a similar remodeling (see HAER No. IL-20W).

At an undetermined date, the wooden, oversized doors with strap hinges on the east and west elevations were replaced with electric-operated overhead doors. The Rock Island Engineering Plans and Services Division has the following undated plan for this alteration: "Overhead Doors / Bldgs 139 and 140," RIA 139-1.1

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B. Historical Context:

In early 1917, the arsenal command made plans to construct a new manufacturing complex about two blocks southwest of the nineteenth-century stone shops on Rodman Avenue. Designed and built in a crenelated Gothic Revival style by Westinghouse-Church-Kerr and Company of the New York, the buildings in this new complex included an Artillery Ammunition Assembling Plant (see HAER No. IL-20U), a TNT Building (see HAER No. IL-20V), an Incinerator Building (see HAER No. IL-20Y), an Artillery Wheel Stock Dry Kiln (see HAER No. IL-20W), and a Gun Stock Dry Kiln. Like the other buildings in the complex, the Gun Stock Dry Kiln was constructed in 1917-1918. Its purpose was to season walnut lumber used in the manufacture of rifle stocks (War's Greatest Workshop, p.22). The interior of the building was divided into a series of cells, or kilns, heated by steam coils (see HAER Photo No. IL-20X-6). Used for lumber drying at least until the end of World War II (see HAER Photo No. IL-20X-7), the building currently serves as a storehouse for miscellaneous materials (for additional documentation, see HAER No. IL-20).

Prepared by: Jeffrey A. Hess
 MacDonald and Mack Partnership
 February 1985

PART II. ARCHITECTURAL INFORMATION

A. General Statement:

1. Architectural character: The building is a large structure exhibiting a simple, crenellated form of the late Gothic Revival style related to the popular Collegiate Gothic of the period, which was normally used for all types of educational buildings. Its application here and in Buildings 250, 251, 133, and 139 is one indication of the versatility of the style. Built first with eight bays, it was soon lengthened to fourteen bays and matched with Building 139. Unlike Building 139, this building remains relatively unaltered.
2. Condition of fabric: Although primarily vacant, the building remains in stable condition.

B. Description of Exterior:

1. Overall dimensions: Measuring 105' (3 bays) x 267' (14 bays), the building is one story with a tall, central corridor flanked by wide, low sides. There is a subfloor level below each side, but no basement.

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2. Foundations: Poured, reinforced concrete.
3. Walls: Poured, reinforced concrete east and west walls (HAER Photo Nos. IL-20X-1, IL-20X-2, and IL-20W-1) and stuccoed structural clay tile north and south walls (HAER Photo No. IL-20X-1). A projecting concrete coping caps the walls. At each corner are narrow projecting walls raised above the adjacent walls with a central indentation in each face to give a crenellated effect. The central bays of the east and west ends have concrete buttresses at each side rising from the ground to the parapet wall. The upper parapet wall has a wide central section with a shallow triangular top flanked by crenellated sides. Beneath the central portion is a set of three machicolations in each end. At the bottom of the north buttress of the west central bay the date, "1918" is cast into the concrete. The exterior is unpainted.
4. Structural systems: Reinforced concrete east and west walls and structural clay tile north, south, and interior walls. The central corridor and sub-floor systems are reinforced concrete. The side bay floor system is sawn wood joists. The roof system is structural clay tile.
5. Openings:
 - a. Doorways: Principal doorways (HAER Photo Nos. IL-20X-1, IL-20X-2, and IL-20W-1) are located in shallow segmental-arched openings in the center east and west bays. Each contains a large, modern overhead door. Single pedestrian doorways are located near the centers of the north and south elevations. The north doorway contains an original, two-panel, wood door in its simple masonry opening. The outer face has diagonal, beaded, tongue-and-groove panels and the interior face has vertical, beaded, tongue-and-groove panels with stop-chamfered, wood framing. The south doorway contains a six-light over three panel wood door in its masonry opening.
 - b. Windows: Typical bays of the north and south elevations contain window openings (HAER Photo Nos. IL-20X-1 and IL-20W-1) with twelve-light, fixed, industrial, steel sash having eight-light, pivoting sash in their centers. Each bay of the monitor roof of the central corridor has a window opening (HAER Photo Nos. IL-20X-1, IL-20X-3, and IL-20W-1) containing a pair of fifteen-light, fixed, industrial, steel sash with central, six-light, pivoting sash.
6. Roof:
 - a. Shape, covering: The three roof areas (HAER Photo No. IL-20W-1) covering the central corridor and the sides are each flat

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and are covered with tar and gravel.

- b. Cornice, eaves: The roof is surrounded by a parapet wall (HAER Photo Nos. IL-20X-1, IL-20X-2, and IL-20W-1) and has an internal water drainage system tied to an underground drainage system.

C. Description of Interior:

1. Floor plans: The building has a straightforward, albeit an unusual plan. A wide central corridor is flanked by large bays enclosed on all sides except facing the corridor. Between the eighth and ninth bays from the east is a wall similar in construction to the exterior west wall, indicating the extent of the initial construction. Directly east of the wall on each side of the corridor is a narrow hallway adjacent to the eighth bay. The eighth bay of the north side is divided into small rooms for storage, an office, and a rest room. Along the outer north and south walls and outside of the interior bays runs a narrow hallway interrupted only by doorways at the eighth bay wall and at the north seventh bay wall. Small doorways open from this corridor to the rear of the central bays.
2. Flooring: The side bay floors are raised approximately two feet above the central corridor floor. Typical flooring is poured concrete (HAER Photo No. IL-20X-3) in the central corridor, side bay edges facing the corridor, and side subfloors. All flooring in the side bays and hallways is wide pine planks laid on the joists.
3. Wall and ceiling finishes: Outer east and west walls are painted concrete. Outer north and south walls and most interior partition walls (HAER Photo Nos. IL-20X-3 and IL-20X-4) are painted structural clay tile. Partition walls in the north seventh bay are original, vertical, beaded, tongue-and-groove, board walls and ceiling and painted plaster hallway walls. A suspended acoustical tile ceiling has been added in the office north of the restroom. Some bay ends facing the central corridor have had wire cage partitions added. Other than the exceptions noted, all ceilings (HAER Photo No. IL-20X-3) are painted structural clay tile.
4. Openings:
 - a. Doorways and doors: Virtually all of the original doorways survive. Nine doorways contain doors identical to the north exterior door. Eight of the small doorways in the rear walls of the west six bays contain flat steel doors and frames. Three of the small doorways in the rear walls of the southeast eight bays contain single-panel, wood doors similar in con-

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struction to the larger wood doors. Sixteen of the small doorways in the rear walls of the east set of eight bays contain slightly larger, single-panel, wood doors similar in construction to their counterparts. Very large, sliding doors (HAER Photo Nos. IL-20X-3 and IL-20X-4) originally were used to cover the ends of the bays facing the corridors. Of these doors only six survive. Three at the three bays of the south side of the west end have varnished, vertical, tongue-and-groove, board doors with metal plates indicating the manufacturer as Drying Systems, Inc., of Chicago, Illinois and dated as 7/21/43. On the opposite side of the corridor three, sheet-steel-clad doors also have plates from the same manufacturer, but are undated. Most of the pedestrian doors have been firmly nailed shut.

- b. Windows: Window openings (HAER Photo Nos. IL-20X-3 and IL-20X-4) are masonry with no casings or other trim. In the north wall of the rest room is a pair of six-light, wood, hopper sash.
5. Hardware: Original hardware survives on all doors. All pedestrian wood doors have knuckle hinges and round, utilitarian, brass knobs with rectangular plates. The small wood doors at the rear of the bays each have a pair of strap hinges and a simple steel turn latch. Surviving hardware for the large bay end doors (HAER Photo Nos. IL-20X-3 and IL-20X-4) includes steel tracks, vertical steel attachments, and pulls.
6. Mechanical equipment:
 - a. Heating, air conditioning, ventilation: An elaborate set of steam pipes between the sub-floor and floor of the bays and hallways provided heat to cure the wood placed in the bays. This system is no longer in service and the building is unheated. There is no mechanical air conditioning or ventilation system.
 - b. Lighting: The original incandescent lighting system (HAER Photo No IL-20X-3) remains virtually intact. Two fluorescent light fixtures were installed with the suspended acoustical tile ceiling in the office.
 - c. Plumbing: Three, original, utilitarian, steel toilet stalls survive in the restroom.
 - d. Machinery: No original machinery, other than that associated with the steam heating system, is known to survive.

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D. Site:

General setting and orientation: The building is set south of its counterpart, Building 139, west of Second Avenue. Across Second Avenue are lumber sheds 148, to the north, and 149, to the south. Railroad spurs run past the north and south elevations of the building. The relatively level site slopes gently to the south.

Prepared by: David Arbogast
Architectural Conservator
February 1985

PART III. SOURCES OF INFORMATION

A. Original Architectural Drawings:

The following drawings are on file at the Rock Island Arsenal Engineering Plans and Services Division:

Westinghouse-Church-Kerr and Company, "Dry Kilns for Artillery Wheel Stock (Tiemann Type) / General Plan," December 13, 1917, No. 2196-E-7, RIA B139-A2. Shows original construction.

Westinghouse-Church-Kerr and Company, "Dry Kiln for Artillery Wheel Stock (Tiemann Type) / Foundation Plan," November 1, 1917, No. 2196-E-1, RIA B139-A1. Shows original construction.

Westinghouse-Church-Kerr and Company, "Dry Kilns for Artillery Wheel Stock (Tiemann Type) / Elevations," December 14, 1917, No. 2196-E-6, RIA B140-B3, RIA B139-B1, D40009C. Shows original construction.

Westinghouse-Church-Kerr and Company, "Dry Kilns for Artillery Wheel Stock / Reinforced-Concrete Details / Roof Slabs and Girders," December 7, 1917, No. 2196-E-4, RIA B139-B6.

Westinghouse-Church-Kerr and Company, "Dry Kilns for Artillery Wheel Stock & Gun Stock / Door Details," No. 2196-E-13, RIA B 139-B5.

Westinghouse-Church-Kerr and Company, "Dry Kilns for Artillery Wheel Stock & Gun Stock / Miscellaneous Details," December 22, 1917.

"Overhead Doors / Bldgs 139 and 140," RIA 139-1.1 Show replacement of original doors by electric-operated overhead doors.

B. Early Views:

The picture collection of the Rock Island Arsenal Historical Office has the following views:

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A photograph of the interior, originally published in 1922 (War's Greatest Workshop, p. 22), captioned "Walnut for Gunstocks in Storage" (see HAER Photo No. IL-20X-6).

A 1944 photograph of the south and west facades, captioned "98 / Looking northeast at South Dry Kiln. Building #140 / 1 November 1944" (see HAER Photo No. IL-20X-5); documents original construction.

A 1945 photograph of the interior, captioned "98-B / Looking east in south Dry Kiln, Building No. 140 / 2 October 1945" (see HAER Photo No. IL-20X-7); documents continued use of the building for lumber storage.

C. Bibliography:

1. Primary and unpublished sources:

Crozier to George W. Burr, April 20, 1917. Rock Island Arsenal Historical Office. Letter noting War Department approval of the Gothic Revival design for the Artillery Ammunition Assembling Plant, which influenced the design of the Gun Stock Dry Kiln.

Hess, Jeffrey A., and Mack, Robert C. "Historic Properties Report Rock Island Arsenal, Rock Island, Illinois". Prepared by MacDonald and Mack Partnership, and Building Technology Incorporated for the Historic American Buildings Survey/Historic American Engineering Record, National Park Service, U.S. Department of the Interior, 1985. The report, with accompanying inventory cards, is filed as field records in the Prints and Photographs Division, Library of Congress, under HAER No. IL-20.

Real Property Cards. Rock Island Arsenal Engineering Plans and Services Division. Briefly describes building's structural characteristics and maintenance history.

2. Secondary and published sources:

Completion Report Covering All Construction Projects Accomplished Under Supervision of the Construction Division, U.S. Army at Rock Island Arsenal. N. pl.: n. pub., 1922. Rock Island Arsenal Historical Office. Describes planning and construction of building and addition.

War's Greatest Workshop Rock Island Arsenal. N. pl.: Arsenal Publishing Co. of the Tri-Cities, 1922. Rock Island Arsenal Historical Office. Describes planning and construction of the building and addition.

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PART IV. PROJECT INFORMATION

This project was part of a program initiated through a memorandum of agreement between the National Park Service and the U.S. Department of the Army. Stanley J. Fried, Chief, Real Estate Branch of Headquarters DARCOM, and Dr. Robert J. Kapsch, Chief of the Historic American Buildings Survey/Historic American Engineering Record, were program directors. Sally Kress Tompkins of HABS/HAER was program manager, and Robie S. Lange of HABS/HAER was project manager. Building Technology Incorporated, Silver Spring, Maryland, under the direction of William A. Brenner, acted as primary contractor, and MacDonald and Mack Partnership, Minneapolis, was a major subcontractor. The project included a survey of historic properties at Rock Island Arsenal, as well as preparation of an historic properties report and HABS/HAER documentation for 38 buildings. The survey, report, and documentation were completed by Jeffrey A. Hess, historian, Minneapolis; Barbara E. Hightower, historian, Minneapolis; David Arbogast, architectural historian, Iowa City, Iowa; and Robert C. Mack, architect, Minneapolis. The photographs were taken by Robert A. Ryan, J Ceronie, and Bruce A. Harms of Dennett, Muessig, Ryan, and Associates, Ltd., Iowa City, Iowa. Drawings were produced by John Palmer Low, Minneapolis.